STATEMENT OF BASIS

as required by LAC 33:IX.3109, for draft **Louisiana Pollutant Discharge Elimination System Permit No. LA0115771** to discharge to waters of the **State of Louisiana** as per LAC 33:IX.2311.

The **permitting authority** for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

I. THE APPLICANT IS: Town of St. Gabriel
Carville Wastewater Treatment Facility
P. O. Box 597
St. Gabriel, LA 70776

II. PREPARED BY: Paula M. Roberts
DATE PREPARED: July 13, 2006

III. PERMIT ACTION: initial LPDES permit LA0115771/AI 92989
LPDES application received: August 23, 2001

IV. FACILITY INFORMATION:

A. The application is for the discharge of treated sanitary wastewater from an existing publicly owned treatment works serving the south central portion of the Town of St. Gabriel.

B. The facility is located at 5001 Martin Luther King Parkway in St. Gabriel; Iberville Parish, Louisiana.

C. The treatment system consists of an extended aeration activated sludge treatment plant with chlorine gas disinfection.

D. Outfall 001

Discharge Location:	Latitude 30° 13 ′ 47″ North Longitude 91°05′ 53″ West
Description:	treated sanitary wastewater
Design Capacity:	0.150 MGD

Type of Flow Measurement that the facility is currently using: weir with combination totalizing meter and continuous recorder

V. RECEIVING WATERS:

The discharge from Outfall 001 is from an effluent pipe into Community Canal, thence Bayou Braud, thence into Bayou Manchac in segment 040201 of the Lake Pontchartrain Basin. This segment is listed on the 303(d) list of impaired waterbodies.

The designated uses and degree of support for Segment 040201 of the Lake Pontchartrain Basin are as indicated in the table on the next page[1/]:

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Overall Degree of Support for Segment 040201	Degree of Support of Each Use							
Not	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Oyster Propagation	Limited Aquatic Life and Wildlife Use	Agriculture
	Not	Not	Not	N/A	N/A	N/A	N/A	N/A

[1/]The designated uses and degree of support for Segment 040201 of the Lake Pontchartrain Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2002 Water Quality Management Plan, Volume 5, Part B, Water Quality Inventory respectively.

Subsegment 040201, Bayou Manchac-Headwaters to Amite River, is listed on LDEQs Final 2004 305(b)/303(d) Integrated Report as being impaired for Chloride, Nitrate/Nitrite, Ammonia-Nitrogen, Dissolved Oxygen, Sulfates, Total Dissolved Solids, Total Fecal Coliform. To date no TMDLs have been completed for the Lake Pontchartrain Basin, however, these impairments will be addressed in this permit in the form of effluent limitations or as a report requirement. Also, a reopener clause will be placed in the permit to allow for the requirement of effluent limitations and other requirements as imposed by any future TMDLs.

Chlorides are salts resulting from the combination of the gas chlorine and various metal ions. Chlorine alone in the form of Cl_2 is very toxic. In combination with a metal ion, such as sodium and in small amounts, it becomes an essential element for normal cell function.

The common chlorides are soluble and not fixed in the soil so that they can move through the soil and into the drainage water from the following sources: 1) rocks containing chlorides; 2) agricultural runoff; 3) wastewater from industries; 4) oil well wastes; 5) effluent wastewater from wastewater treatment plants and; 6) road salting.

Despite the beneficial impaction to cell function, chlorides can contaminate fresh water streams and lakes. At high concentrations, chlorides will inhibit plant growth, as well as diminish the survival of fish and aquatic communities.

A report requirement for Chlorides will be imposed in the permit. Based upon the fact that this facility has a continuous flow, monitor and report is imposed in an effort to gather information concerning the potential presence of chlorides in this facility's effluent. This may be beneficial in the formulation of effluent limitations in the future.

$CBOD_5$ is used as a method to measure the amount of dissolved oxygen in the waste stream utilized by organisms during the decomposition of organic material over a five day period (when ammonia nitrogen is a requirement of the permit). Therefore, to protect against the potential for discharges of material that would result in DO at levels below that of state water quality standards, $CBOD_5$ and Ammonia limits have been placed in the permit.

TDS is a measure of the amount of material dissolved in water. This material can include carbonate, bicarbonate, chloride, sulfate, phosphate, nitrate, calcium, magnesium, sodium, or organic ions and other ions. A certain level of these ions in water is necessary for aquatic life. If TDS concentrations are too high or too low, the growth of many aquatic life can be limited, and death may occur.

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The effluent from WWTPs adds dissolved solids to a stream. The wastewater from houses contains both suspended and dissolved solids. Most suspended solids are removed from water at the WWTP before being discharged to the stream, but WWTPs only remove some of the Total Dissolved Solids (TDS). Important components of the TDS load from WWTPs include phosphorus, nitrogen, and organic matter.

Many compounds may be found in domestic wastewaters, some organic and some inorganic. One inorganic compound that may be found in domestic wastewaters is sulfates. Sulfates can be found in almost all natural waters. They occur naturally in numerous minerals, some soils with gypsum and some shale; however, the highest levels usually occur in ground water and natural sources. The origin of most sulfate compounds is the oxidation of sulfite ores, the presence of shales, or industrial waste, principally in the chemical industry. This compound can enter a stream from erosion, weathering, through atmospheric deposition or from industrial dischargers. Sulfates are the second most abundant dissolved solids in water.

In an effort to gather information concerning the amount of organic and inorganic material being discharged from this facility, a report requirement is being imposed in the permit for the parameters TDS and Sulfates.

Fecal coliform is a bacteria that occurs in the digestive tracks of warm-blooded animals. Fecal coliform can enter a stream by direct discharge from mammals and birds, from agricultural runoff, or from open or broken sewers. Fecal coliform is itself non-pathogenic, however, it is evidence of the presence of fecal wastes that may contain pathogenic microbes. Since this is a point source discharger discharging treated sanitary wastewater, monitoring for Fecal coliform colonies is the best indicator for the potential presence of pathogenic microorganisms in wastewater. Therefore, to protect against the development of pathogenic organisms in the receiving waterbodies, fecal coliform limits are established in the permit.

There are different forms of Nitrogen found in wastewater which includes Total Kjeldahl Nitrogen that's comprised of Organic Nitrogen and Ammonia Nitrogen. Other forms of nitrogen include nitrates and nitrites. High levels of nitrogen in the receiving stream can increase aquatic growth, increase DO depletion, cause pH changes, and ammonium (NH_4) toxicity. Therefore, in an effort to improve the receiving stream quality, increase chlorination efficiency, minimize pH changes in the plant, and protect groundwater from nitrate contamination, monitoring for nitrogen will be imposed in this permit. Since the Areawide Policy for segment 0402 dictates effluent limitations for ammonia-nitrogen, through Best Professional Judgment, there will be no additional monitoring for nitrates-nitrites.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 040201 of the Lake Pontchartrain Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 21, 2005 from Watson (FWS) to Gautreaux (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

VII. HISTORIC SITES:

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

VIII. PUBLIC NOTICE:

The public notice is published in the local newspaper of general circulation and the Office of Environmental Services Public Notice Mailing List. Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit to the LDEQ contact person, listed below, and may request a public hearing to clarify issues involved in the permit decision. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Department of Environmental Quality Public Notice Mailing List

For additional information, contact:

Ms. Paula M. Roberts
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:

OUTFALL 001

Final effluent limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Final Effluent Limits:

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
$CBOD_5$	13	10 mg/l	15 mg/l	Limits are based upon the Water Quality Management Plan, Vol. 8, Appendix A, Areawide Effluent Limitations Policy (AELP) for Lake Pontchartrain Basin Segment 0402 *

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
TSS	19	15 mg/l	23 mg/l	Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgment for the type of treatment technology utilized at this facility.
Ammonia-Nitrogen	6.3	5 mg/l	10 mg/l	Limits are based upon the Water Quality Management Plan, Vol. 8, Appendix A, Areawide Effluent Limitations Policy (AELP) for Lake Pontchartrain Basin Segment 0402 *
Chlorides	N/A	Report	Report	Best Professional Judgment based upon listing on LDEQ's 2004 Integrated Report dated August 17, 2005
TDS	N/A	Report	Report	Best Professional Judgment based upon listing on LDEQ's 2004 Integrated Report dated August 17, 2005
Sulfates	N/A	Report	Report	Best Professional Judgment based upon listing on LDEQ's 2004 Integrated Report dated August 17, 2005

*** This areawide policy applies to all sanitary wastewater treatment facilities located in the following areas: Ascension Parish, East Baton Rouge Parish, and Iberville Parish and which discharge directly into Bayou Manchac or any other waterbodies which contribute to and are contained in the Bayou Manchac drainage area in Segment 0402 of the Lake Pontchartrain Basin. This includes but is not limited to the following waterbodies: Bayou Fountain, Wards Creek, Dawson Creek, Alligator Bayou, Welsh Gully, Cotton Bayou, Muddy Creek.**

Other Effluent Limitations for Outfall 001

1) Fecal Coliform

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.a, the fecal coliform standards for this water body is 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) **pH**

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C., the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

3) **Solids and Foam**

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

X. PREVIOUS PERMITS:

LPDES Permit No. : None issued

NPDES Permit No.: None issued

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:

A) Inspections

A review of EDMS indicates the following inspections were performed during the period beginning **June 2004** and ending **June 2006** for this facility.

Date – April 27, 2004
Inspector(s) – Mark Nave, LDEQ/Capital Regional Office
Findings and/or Violations:

A compliance evaluation inspection was conducted on this facility's discharge. The following information was noted:

1. The facility applied for a sanitary wastewater discharge permit on 8/1/01.
2. The plant went on-line on or around May-June of 2001. Samples pulled from the effluent for the first time on June 29, 2001. Copies of sample results and DMR obtained from the facility are attached to this report.
3. During the site visit, the facility was discharging to the canal at a rate of 0.07 MGD.

B) Compliance and/or Administrative Orders

A review of EDMS and TEMPO was done along with consultation with enforcement staff revealed the following enforcement actions (active) administered against this facility from the period beginning May **2002** through **July 2006**:

LDEQ Issuance:
Enforcement Tracking # - WE-CN-04-0455
Issued – August 6, 2004
This is a consolidated compliance order and notice of potential penalty issued to the City of St. Gabriel and includes the findings for three sewage treatment plants owned and operated by the city, however, only the requirements that apply to the Carville Wastewater Treatment Facility will be listed.

Findings:

1. The permittee did not have an LPDES permit or other authority to discharge to waters of the state from this facility. An application fro an LPDES permit was received by the Department on or about August 23, 2001, and was determined to be administratively complete.
2. An inspection conducted by the Department on or about April 27, 2004, revealed that the

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permittee is operating a sewage treatment plant without an LPDES permit. The wastewater treatment plant became operational on or around May to June of 2001; however, the application to discharge was not received by the Department until August 23, 2001. The inspector verified that the permittee was discharging from this facility at the time of the inspection.

Order:

1. To immediately cease all unauthorized discharges from the permittee's facility to waters of the state, and take any and all steps necessary to meet and maintain compliance with LPDES permits LA0103853 and LA0103845, and this compliance order and the water quality regulations.
2. To protect the water quality by complying with the following interim limitations and the monitoring requirements listed in the order:

Effluent Characteristics	Discharge Limitations		Monitoring Requirements	
	Monthly Average	Weekly Average	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	1/day	Measure
BOD_5	30 mg/l	45 mg/l	1/week	Grab
TSS	30 mg/l	45 mg/l	1/week	Grab
FecalColiform Colonies/100 ml	200	400	1/week	Grab
pH–AllowableRange (Standard Unit)	6.0 (minimum)	9.0 (maximum)	1/week	Grab

3. Within 30 days of receipt of the Compliance Order, submit to the Enforcement Division, a written report that includes a detailed description of the circumstances surrounding the cited violations and actions taken to achieve compliance with the Order Portion of the Compliance Order.

The permittee was put on notice that:

1. The permittee has the right to an adjudicatory hearing on a disputed issue of material fact or of law arising from this Compliance Order. The permittee had to file this request within 30 days of the receipt of the Compliance Order.
2. The request for an adjudicatory hearing had to specify the provisions of the Compliance Order on which the hearing was requested and briefly describe the basis for the request.
3. If the request was filed timely, a hearing may be scheduled by the Secretary of the Department.
4. The Compliance Order will become a final enforcement action unless the request for a hearing is filed timely.
5. Civil penalties of not more than twenty-seven thousand five hundred dollars ($27,500) for each day of violation for the violations assessed.
6. The Department reserves the right to seek civil penalties in any manner allowed by law, and nothing herein shall be construed to preclude the right to seek such penalties.

Penalty:

1. The permittee was notified that the issuance of a penalty assessment was being considered for the violations described in the order. Written comments could be filed regarding the violations and the contemplated penalty.
2. The permittee was also notified that they may request a meeting with the Department to present any mitigating circumstances concerning the violations.
3. The permittee was required to forward the most current gross revenue statement along with a statement of the monetary benefits of noncompliance for the cited violations so that a determination could be made whether a penalty will be assessed and the amount of such penalty.

EPA Issuance: None

C) **DMR Review**

The permittee is allowed to discharge under Compliance Order WE-CN-04-0455 with effluent limitations imposed in this order. The permittee has been reporting the effluent limitations listed in the order but for parameters issued in one of the other POTWs owned by the Town of St. Gabriel. A review of the discharge monitoring reports for the period beginning **September 2004** through **February 2006** has revealed the following violations:

Effluent Characteristic	Number of Violations
Fecal Coliform Avg.	1
Fecal Coliform Max	2

A detailed report is attached.

XII. ADDITIONAL INFORMATION:

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity flow of 0.15 MGD. Effluent loadings are calculated as shown in the following example:

$CBOD_5 = 8.34 \times 0.15 \times 10$ mg/l = 13 lbs/day

The **Monitoring Requirements, Sample Types, and Frequency of Sampling** for facilities with flows of 0.1 MGD to 0.5 MGD are 2/month:

Effluent Characteristics	Monitoring Requirements	
	Measurement Frequency	Sample Type
Flow	Continuous	Recorder
$CBOD_5$	2/month	Grab
Total Suspended Solids	2/month	Grab
Fecal Coliform Bacteria	2/month	Grab
Ammonia-Nitrogen	2/month	Grab
Chlorides	1/quarter	Grab
TDS	1/quarter	Grab
Sulfates	1/quarter	Grab
pH	2/month	Grab

Pollution Prevention Requirements:

The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report each year for the life of this permit according to the schedule below. The permittee will accomplish this requirement by completing an Environmental Audit Form which has been attached to the permit. Please make additional copies to be utilized for each year of this permit.

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

XIII. TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

XIV. REFERENCES:

Louisiana Water Quality Management Plan, Vol. 8, Appendix A "Areawide Effluent Limitations Policy", Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan, Vol. 5, Part B, "Water Quality Inventory", Louisiana Department of Environmental Quality, 2002 and 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards", Louisiana Department of Environmental Quality, 2006.

LA 2004 Integrated Report with FINAL EPA Additions, August 17, 2005.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 23 - "The LPDES Program", Louisiana Department of Environmental Quality, 2006.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Town of St. Gabriel, Carville Wastewater Treatment Facility, August 23, 2001.

Exploring the Environment: Water Quality Assessment:Chemical:Fecal Coliform, last updated November 10, 2004, copyright 1997-2004 by Wheeling Jesuit University/NASA, http://www.cotf.edu/ete/modules/waterq3/WQassess3g.html.

2004 Biological Wastewater Treatment Operators School, Advanced Treatment Systems, May 13, 2004, Dean Pond, Black & Veatch, http://www.hockyjocky.com.

Eutrophication – wikipedia, the free encyclopedia, http://en.wikipedia.org/wiki/Eutrophication, July 12, 2006.